

Amendment under Article 19

New claims

1. (Amended) A copper alloy sputtering target wherein 0.5 to 4.0wt% of Al and 0.5wtppm or less of Si are contained, average crystal grain size is 0.1 to 60 μ m, and the average grain size variation is within $\pm 20\%$.
2. A copper alloy sputtering target according to claim 1, further containing one or more selected from among Sb, Zr, Ti, Cr, Ag, Au, Cd, In and As in a total amount of 1.0wtppm or less.
3. A copper alloy sputtering target according to claim 1, further containing one or more selected from among Sb, Zr, Ti, Cr, Ag, Au, Cd, In and As in a total amount of 0.5wtppm or less.
4. (Amended) A copper alloy sputtering target wherein 0.5 to 4.0wt% of Sn and 0.5wtppm or less of Mn are contained, average crystal grain size is 0.1 to 60 μ m, and the average grain size variation is within $\pm 20\%$.
5. A copper alloy sputtering target according to claim 4, further containing one or more selected from among Sb, Zr, Ti, Cr, Ag, Au, Cd, In and As in a total amount of 1.0wtppm or less.
6. A copper alloy sputtering target according to claim 4, further containing one or more selected from among Sb, Zr, Ti, Cr, Ag, Au, Cd, In and As in a total amount of 0.5wtppm or less.
7. A copper alloy sputtering target according to any one of claims 1 to 6, wherein the recrystallization temperature is 365°C or less.
8. A copper alloy sputtering target according to any one of claims 1 to 7, wherein oxygen is 5wtppm or less.
9. A copper alloy sputtering target according to any one of claims 1 to 7, wherein oxygen is 1wtppm or less.
10. (Delete)
11. (Amended) A copper alloy sputtering target according to any one of claims 1 to 9, wherein the total amount of Al and Sn contained therein is 0.5 to 4.0wt%.
12. (Amended) A semiconductor element wiring formed with the copper alloy sputtering target according to any one of claims 1 to 9.
13. A semiconductor element wiring according to claim 12 formed as a semiconductor wiring seed layer.
14. A semiconductor element wiring according to claim 13 formed as a seed layer on a barrier film of Ta, Ta alloy or the nitrides thereof.